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The Automobile

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The Newport Automobile Parade.

One of the pleasantest memories that will remain of the past season at Newport is undoubtedly the automobile parade and its enjoyable occasion. The automobile permits of artistic embellishments and fairy creations which were impossible with its predecessor; enables beautiful conceptions to be carried out unmarred by any prosaic evidences of motive power. This novel parade was beautifully conceived and charmingly executed. A few of the automobiles in line are illustrated in the above engravings. In Fig. 1 is shown the first prize automobile of Mrs. Hermann Oelrichs. It was overhung with yellow wisteria, and before it was a flock of pure white doves, as if they were drawing the carriage. The first prize for speed was awarded to Mr. Wm. K. Vanderbilt, Jr., for his steam locomobile, shown in Fig. 2. In Fig. 3 is the second prize automobile, in which are Mrs. Burke-Roche and Mr. M. M. Shoemaker. It was decorated with sheaves of wheat, red poppies and blue cornflowers. The fourth automobile shown is trimmed with red flowers, over which was a Japanese

FIG. 1. FIRST PRIZE CARRIAGE, ELECTRIC.
FIG. 2, FIRST PRIZE FOR SPEED, STEAM.
FIG. 3. SECOND PRIZE CARRIAGE, ELECTRIC.
FIG. 4. AN HYDROCARBON CARRIAGE.

THE NEWPORT AUTOMOBILE PARADE.

umbrella with lanterns hanging from points. The occupants were Mrs. Clarence MacKay and Mr. H. Roger Winthrop. It is a Winton gasoline carriage, being the only one of the kind in the parade.

The parade started at five in the afternoon of Sept. 7th, and proceeded to Belcourt, where an avenue was laid out, and so thoroughly occupied by an improvised traffic of wagons drawn by stuffed horses, policemen, baby carriages, etc., that it was a most difficult task to make the avenue without interfering with the poise of some of the obstacles. Several made it without mishap, but others did damage both to the dummies and their own vehicles. The parade then proceeded to Gray Craig, the country place of Mr. O. H. P. Belmont, where special arrangements had been made for the reception and entertainment of the guests.

The table at which the sixty-four guests assembled was about twenty by forty feet, laid out as a miniature park, with an artificial lake on which floated water fowl, and around it were miniature woods and flowers, dotted with small electric lamps.

This was the first parade of the kind in this country, and of its success its participants may well be proud. It was viewed by crowds which lined the roadway, and many made a special trip to witness it.

A Long Tour.

From Pekin, China, to London in an automobile is in contemplation by Dr. Lehwess, of London, England. He plans to start next spring, as soon as roads are in condition. As gasoline is not in general use in the Chinese Empire and there would be difficulty in obtaining it along the route, special tanks are being built to carry a supply sufficient for several hundred miles.

Business Before the Automobile Club of Great Britain.

Some of the business that the Automobile Club of Great Britain has in contemplation is as follows:

Recommendations to the Local Government Board as to amendments in the regulations of the Board affecting light locomotives on highways.

The formation of a society for protection against vexatious prosecutions and vexatious actions at law.

The organization of a race for touring and racing carriages in France next spring.

The organization of the second automobile club show, to be held from or about 24th March to 7th April next.

The framing of rules affecting automobile racing.

The representation of British manufacturers at the Paris Exhibition of 1900, and at other exhibitions.

Arrangements for the accommodation of members of the club who may be visiting the Paris Exhibition of 1900. It is proposed to rent a small villa near Paris.

The compilation of an accurate list of motor-spirit stores, repairing firms, etc.

The compilation of a small pocket-book giving useful information of a non-technical nature.

Arrangements whereby manufacturers or members may, at any time, submit motor-vehicles to trial, and obtain a club certificate as to their capabilities.

The formation of branches of the club in Scotland, in Ireland and the provinces.

Automobile at the Top of Mount Hamilton.

A very interesting trip was recently made to the top of Mount Hamilton by President David Starr Jordan, of the Leland Stanford, Jr., University. Starting from San Jose, President Jordan ascended Mount Hamilton and called upon Director Keeler of the Lick Observatory. This observatory is at an altitude of something more than 4,000 feet, and in addition to the pleasure of automobiling up the mountain, the view from the road and from the top through the clear atmosphere is very beautiful. Starting at noon the distance of twenty-seven miles was made in five hours and twenty minutes. The cost of the trip for fuel was about one dollar, which is remarkable considering the grades which were made. The automobile is said to have behaved beautifully, and no trouble at all was had in its operation.

Automobile Race at Galesburg.

Mr. F. B. Snow has accepted the challenge of Dr. Morris, of Galesburg, for an automobile race for a purse of two thousand dollars. The terms of the race have been decided upon: To take place on Williams' mile track at Galesburg; distance to be one hundred miles; each is to drive his own carriage; position at start to be decided by lot; flying start and pass even under wire; in passing from one side of track to other not to pass within two carriage lengths of the other; a carriage may stop on outside edge of track for repair or adjustment; no allowance made for breakdowns and the one completing the one hundred miles first to be declared the winner. Mr. Snow will ride a carriage that has been in use four years. The motor is of the Duryea type.

The Belgium Tax.

Belgium is to derive a revenue from the automobile in the form of a tax on all such vehicles. On voitures or voiturettes of one or two seats the tax is thirty francs; of more than two seats, fifty francs. On motorcycles of one seat the tax is twenty francs; of two or more seats, thirty francs. On voiturettes-remorques of one seat the tax is ten francs, and on those of more than one seat twenty francs.

The Automobile Delivery Wagon.

On the opposite page are illustrated some of the many types of automobile delivery wagons now in use in America. In Fig. 1 is a light Winton delivery wagon recently built for Dr. Pierce of Buffalo. This is one of an order for seven wagons which were delivered last week. It is propelled by a hydro-carbon motor of the standard type, built by this company. The entire mechanism is below the floor of the wagon, with steering and controlling levers before the seat. The body is supported on heavy springs and is finely finished throughout.

The electric delivery wagon shown in Fig. 2 is one which has been in use several months by the Siegel-Cooper Co. It was built by the Woods company of Chicago. The style of body is that used by the company for its regular wagons, and the entire carriage differs from the others, chiefly in the running gear. It has a double motor equipment with storage battery in wagon body. The controlling lever is at the left hand and steering arm in the center. Brakes, gong, etc., are handy to the driver.

In Figs. 3 and 4 are shown two styles of automobile wagons, built by the Riker company. Each of these wagons has been some time in use. The vehicles differ chiefly in the style of body, the running gears being very much alike. The wheels are wood with heavy pneumatic tires as shown.

The delivery wagon built and used by the Columbia company is shown in Fig. 5. In many respects original lines were followed in its design. These are noticeable not only in the application of the power, but also in the wagon parts. The wheels are large in diameter, with pneumatic tires and, together with running gear, are adapted to rough pavements and grades. It is well adapted to light delivery service. An express wagon, intended for light parcel delivery or money department service, is shown in Fig. 6. It has been seen about the streets of New York for several weeks past. This illustrates another use of the automobile light wagon, and one which will undoubtedly grow rapidly. The wagon was also built by the Woods company.

The Automobile's Wonderful Speed.

Sixty-five miles an hour or more than a mile a minute is fast time for an express locomotive on the most improved roadbed. This speed has been equaled by an automobile, and the more wonderful record of a kilometre (.62 mile) from a standing start has been made in forty-seven and four-fifths seconds. These speeds were obtained by Genetzy, April 29 last, on an ordinary road. The trial was made in the Park d'Achere, Paris, where there is a straight-away course of a couple of miles. The automobile was especially built for the purpose, having a cigar-shaped body mounted on low wheels.

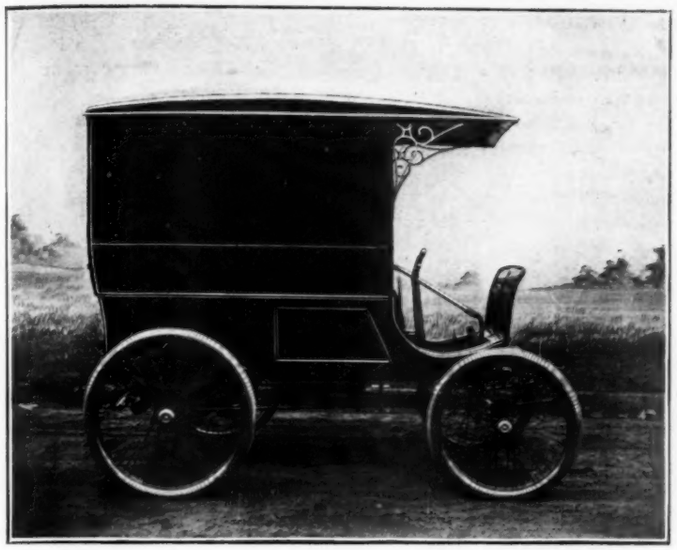


FIG. 1. A WINTON HYDROCARBON.

FIG. 2. A WOODS ELECTRIC.

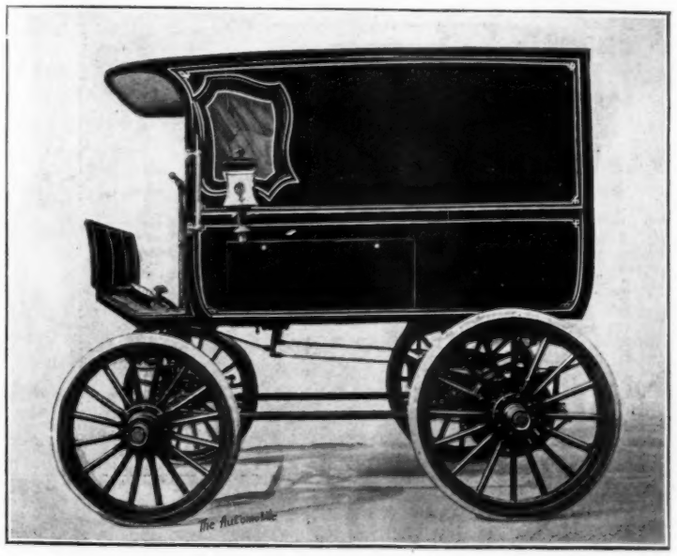


FIG. 3. A RIKER ELECTRIC.

FIG. 4. A RIKER ELECTRIC.

FIG. 5. A COLUMBIA ELECTRIC.

FIG. 6. A WOODS ELECTRIC EXPRESS.

THE AUTOMOBILE DELIVERY WAGON.

Automobile Club Trials Before the Local Government Board.

It will be recollected that a short time ago the Local Government Board requested that the Automobile Club should organize trials to take place before their officials, with reference to applications which had been made to the Board that the limits of speeds for vehicles weighing thirty hundredweight and upwards should be raised.

The object of the trials was to ascertain by accurate experiment the stopping powers of heavy motor-vehicles. The club invited a number of firms to supply vehicles for the purposes of these trials. The companies who went to the trouble and expense of supplying vehicles for the occasion are to be heartily congratulated on the public spirit they have thereby shown.

At the trials—which were held on Friday, the 18th instant—the first arrival at the Star and Garter Hotel, Richmond, was the Clarkson and Capel lorry, which had on board a load of two tons of granite (kindly supplied by the courteous surveyor to the borough of Richmond).

The second arrival was the omnibus of the Motor Traction Co., Ltd. (late London Steam Omnibus Co., Ltd.), and this was followed by the Thornycroft lorry, carrying a load of three tons, and the Daimler post office van, with a load of thirty hundredweight.

The Local Government Board was represented at the trials by its chief engineering inspector (Major-General C. Phipps Carey, R. E.), the deputy chief inspector (Col. J. O. Hasted, R. E.), second deputy chief inspector (Mr. Rienzi Walton), and one of the inspectors (Mr. Willcocks).

The trials were carried out under the superintendence of the committee of the Automobile Club, assisted by Mr. Julius Harvey, who acted as starter; Mr. Thomas Clarkson, who acted as timekeeper, and Mr. Foster Pedley, who held a second watch. The committee acknowledge with gratitude the assistance rendered in the trials by these gentlemen. Mr. Straker, the engineer to the Motor Traction Co., Ltd., accompanied the petrol omnibus.

The trials consisted of stopping the vehicles while running down the Petersham Hill at Richmond by an unexpected signal, the speed of the vehicle before stoppage, as well as the distance covered in stopping, being both carefully measured. Similar tests were carried out on the flat. The results of the tests were as follows:

The Committee of the Automobile Club have recently, after very careful consideration, addressed a letter to the Local Government Board making certain recommendations as to the amendment of the Local Government Board Regulations.

As regards the matter of speed, it would be interesting to compare the control which the driver has over an automobile vehicle with that possessed by the driver of a horse-drawn vehicle. For instance, it would considerably facilitate the Local Government Board's deliberations in the consideration of the statistics resulting from the trials on Petersham Hill if experiments as to the stopping power of horse-drawn vehicles—bearing similar loads and traveling at similar speeds to the loads and speeds obtaining in the trials named above—could be made. The results of such experiments would, we feel confident, surprise the inspectors of the Local Government Board.

It is important, too, that it should be borne in mind in arriving at the limit of speed for vehicles weighing unladen one and a half tons and upwards, that for a passenger service it may be necessary to build a vehicle of considerable weight, whereas its load may, practically, be a light weight; and it has been proved that such a vehicle could with perfect safety be run at sixteen miles an hour on country highroads, and at a maximum of at least ten miles an hour in traffic.

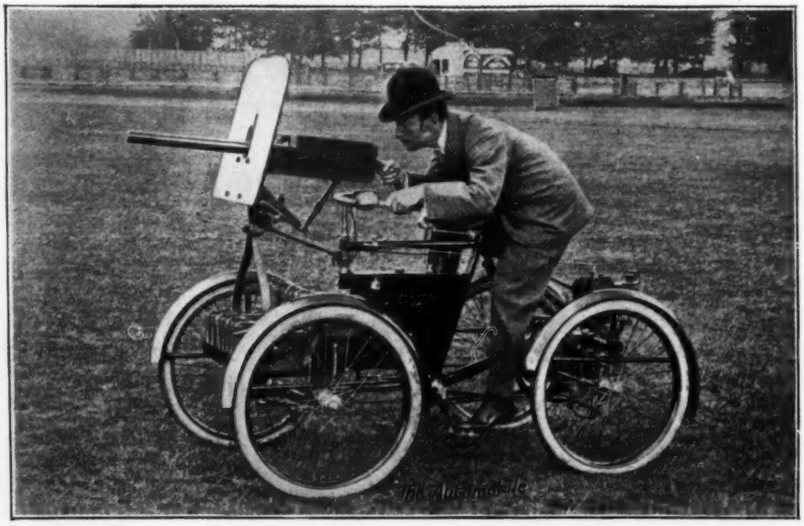
The inspectors of the Local Government Board, in making their recommendations, will no doubt bear in mind that the limit of speed does not authorize a vehicle to travel up to that limit under all circumstances, but that the average of speed is to be regulated by circumstances. It is hoped, therefore, that they will see their way to recommend that the limits of speed should be fixed at as generous a figure as possible.—Autocar.

Maker and Description of Vehicle.	Weight without load, but including fuel, water, etc.	Weight of Load.	Total Weight	While Travelling at a speed of miles per hour.	On a gradient of.	The vehicle stopped in yards.
	tons cwts qrs lbs.	tons cwts. qrs. lbs.	tons cwts. qrs. lbs.			
Clarkson & Capel Steam Lorry	3 9 1 20	2 0 0 0	5 9 1 20	8	1 in 9	8
" " " "	3 9 1 20	2 0 0 0	5 9 1 20	8½	1 in 9	8½
" " " "	3 9 1 20	2 0 0 0	5 9 1 20	9	1 in 10½	6
" " " "	3 9 1 20	2 0 0 0	5 9 1 20	8½	Practically flat.	4½
Motor Traction Co.'s Petrol Omnibus	3 6 0 0 (about)	(Two persons		7½	1 in 9½	9½
" " " "	3 6 0 0	(Nine persons)		9½	1 in 10½	11
" " " "	3 6 0 0	(Nine persons)		8½	Practically level.	8
" " " "	3 6 0 0	(Nine persons		7	Practically flat.	6
Thornycroft Steam Lorry	3 18 0 0 Without fuel and water	3 0 0 0	6 10 0 0	7	1 in 9½	15½*
" " " "	3 18 0 0	3 0 0 0	6 10 0 0	7½	1 in 9½	9½
" " " "	3 18 0 0	3 0 0 0	6 10 0 0	6½	Practically flat.	4
Daimler Co.'s Petrol Post Office Van	3 7 2 18	1 10 0 0	5 17 2 18	9½	1 in 9½	12½
" " " "	3 7 2 18	1 10 0 0	5 17 2 18	10	1 in 9½	16½
" " " "	3 7 2 18	1 10 0 0	5 17 2 18	10	Practically flat.	6½

*NOTE.—Driver was slow in getting on brakes.

Simms' Automobile Gun Carriage.

The automobile gun carriage shown herewith is one of several designed by Mr. F. R. Simms, and shown in England. It is a quadricycle propelled by a gasolene motor, for which fuel sufficient for a hundred and twenty miles is carried. It mounts a Maxim rapid-fire gun, and will carry a supply of ammunition in easy reach of the operator.



SIMMS' AUTOMOBILE GUN CARRIAGE.

Mr. Simms has had constructed a massive war car, mounting two quick fire Maxims on two miniature barbettes with armor shields. The operators are entirely concealed within the armor.

New York Fire Department Automobile.

Chief Croker, of the New York Fire Department, has had in use for several weeks past an automobile for his personal use. He is very much in favor of the automobile for fire service, but naturally sees many defects in those now on the market for such use. When making for a fire he cannot run the risk of a punctured pneumatic or a trifling disarrangement of driving mechanism. It must be a reliable vehicle in every particular to meet the requirements of such service.

French Trials of Electric Delivery Wagons.

In October of last year a trial of automobiles for heavy service was made at Versailles under the auspices of the Automobile Club de France, an extended account of which has just been concluded in the columns of the Genie Civil. Of 19 vehicles entered, 8 dropped out for various causes before the end of the trials, and the two electric delivery wagons entered were among the 11 which successfully withstood the test. These, which were numbered 4 and 19, are illustrated in the accompanying cuts. The former was entered by the Compagnie Francaise de Voitures Automobiles, and the latter by M. Krieger.

Vehicle No. 4 (Fig. 1) is 12.1 feet long and 5.4 feet wide, and has a capacity of 1,650 pounds useful load, its weight empty being 4,620 pounds. The storage battery is installed in a box placed under the wagon and suspended from the frame by means of four helical springs. The battery consists of 42 cells weighing 1,540 pounds. The single motor is of the four-pole Lundell type, with double series field windings and double armature windings. It weighs with its suspension frame and gears, 528 pounds, the rated capacity being 3½-hp. By means of various connections of the field, a rheostat and the double armature, three running speeds can be obtained—3.6, 8.4 and 10.2 miles per hour. The cost of the wagon is stated to be $2,600. The ratio of traction to entire weight is .63, and of useful to total weight, .266.

Five trips at full load were made over distances of from 25 to 40 miles each, at mean speeds of from 4.7 to 7.5 miles per hour. In the report of the trial committee the wagon is rated as capable of a commercial speed of 6 miles per hour.

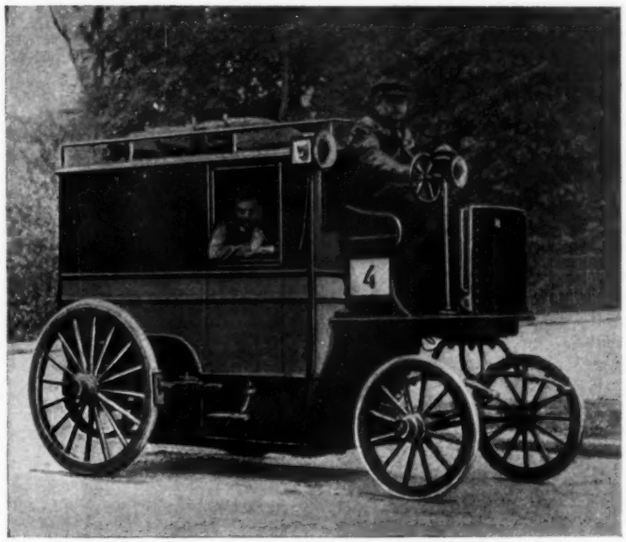
The daily fixed expenses were calculated on the basis of 6 per cent. interest on cost of wagon; 15 per cent. for depreciation, care and repair; $40 per month wages of driver, and 15 cents daily for oil and waste. This results in a daily fixed expense of $3.57, to which 10 per cent. is added for general expenses, making a total of $3.92 per day.

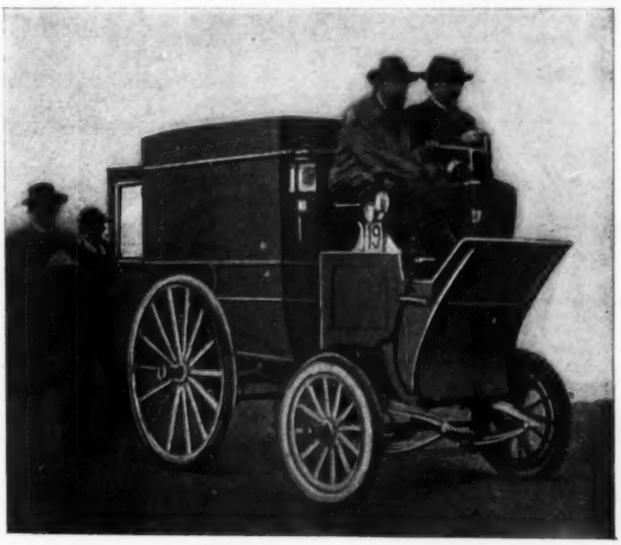
The expense for current is based on a cost of 4½ cents per kw-hour. Table I. gives the total daily cost of covering 57 miles, with an average of one-third, two-thirds and full load.

Vehicle No. 19 (Fig. 2) is 8.7 feet long and 5.7 feet wide, and has a capacity for 1,100 pounds of useful load, its weight empty being 3,212 pounds. The ratio of tractive to total weight is .5, and of useful to total weight, .246. The cost is stated to be $3,000. The storage battery comprises 40 cells weighing 1,005 pounds, and is installed beneath the driver's seat in two boxes. There are two motors of the four-pole type, with two armature windings, and both shunt and series field windings, the shunt windings being on one pair of poles, and the series windings on the other pair. Each motor is rated at 4-hp. and weighs 144 pounds. The speed connections of the wagon are as follows:

For 3 to 3.6 miles per hour, the battery is in two parallel groups, and current passes through all four field coils; for 4.8 to 6 miles, the battery remains the same, and the shunt coils are out of circuit; for 6.6 to 7.2 miles, the cells are all in series, and current passes through all field coils; for 9.6 to 10.4 miles, the cells are in series and the shunt coils are cut out. In all of the above cases the armature windings are in series; for 12 miles per hour, the armature windings are in parallel, the cells in series, and all field coils in circuit; for 25 miles per hour, the same arrangement, but with the shunt coils out of circuit.

Three trips at full load were made over 26.4, 28 and 40 miles, respectively, the speeds being 6.6, 7.2 and 6 miles per hour. The trial committee rated the mean commercial speed of the wagon at 6.1 miles per hour.





FIGS. 1 & 2.—FRENCH TRIALS OF ELECTRIC DELIVERY WAGONS.

TABLE I.—OPERATING EXPENSES, ELECTRIC WAGON NO. 4.

Load.	Kw-hours.	Cost of Power.	Fixed Cost.	Total.	Cost of Useful Ton-mile, Cents.
One-third	23	$1.40	$3.92	$5.41	36
One-half	33.6	1.65	3.92	5.57	19
Full	40	1.80	3.92	5.72	13

TABLE II.—OPERATING EXPENSES, ELECTRIC WAGON NO. 19.

Load.	Kw-hours.	Cost of Power.	Fixed Charge.	Total.	Cost of Useful Ton-mile, Cents.
One-third	18	$0.80	$4.22	$5.02	31
Two-thirds	20	.90	4.22	5.12	17
Full	21.6	.97	4.22	5.19	17

TABLE III.—COMPARISON OF ELECTRIC, STEAM AND GASOLINE DELIVERY WAGONS.

Wagon.	Price.	Miles per Day.	Speed.	Useful Load.	Total Weight.	Ratio of Useful to Total Weight.	Ratio of Tractive to Total Weight.
Steam 1	$4800	43	6.6	2560	12048	.27	.6
Steam 4	4800	42	6.3	5040	24772	.27	.28
Gasoline	3000	60	6.5	2300	7414	.44	.75
Electric No. 4	2600	57	6.0	1650	6270	.266	.63
Electric No. 19	3000	57	6.1	1100	4212	.246	.5

Calculated on the same basis as for the other electric wagon, the daily fixed cost was placed at $4.22, and the cost of current was assumed to be 4½ cents per kw-hour as before. Table II. gives the costs for a daily mileage of 57 miles under three conditions as to load.

Table III. gives comparative figures from the report of the committee on two steam, one gasoline and two electric delivery wagons here described.—Reproduced from Electrical World and Engineer.

Omnibus Service.

An automobile omnibus service is being established on the Isle of Man, between the various towns and summer resorts. The first vehicle has arrived. It has the Daimler-Panhard type of motor; will seat eight passengers and driver, and in the trips so far made has run very smoothly and satisfactorily.

Club News and Views.

The Automobile Club of America.

Expressions of good will and courteous interest have been received from many of the foreign clubs by this club in response to the announcement of its organization. The constitution and by-laws were adopted by the board of governors at its meeting on Sept. 26th, and much of the preliminary work incident to perfecting its organization has been accomplished. At the first annual meeting to be held at the Waldorf on Monday evening, Oct. 9th, the subject of permanent quarters for the club, and other important matters, will be considered. Fifth avenue and Fifty-ninth street has been suggested as the probable location of the club.

Some of the work that the club has before it appears in the constitution, extracts

MR. GEO. F. CHAMBERLIN, ACTING PRESIDENT.

of which are given in another column. An automobile show is under consideration, and that it will surpass anything of the kind heretofore seen in America is to but lightly express the ideas of the members. They can safely depend on the assistance and co-operation of every one interested in the subject. Other countries have given numerous shows and contests, while America has almost nothing of this kind to its credit.

A short run is contemplated in a few days by a number of members of the club, although it is not credited as a club run. The route will undoubtedly be along the Hudson, and about a six-hour run will be made. It is expected that reports as to condition of road, features of route, places to avoid, etc., will be kept of these runs and information preserved accessible to members. The club expects to own a number of vehicles for the use of its members and guests, and in addition will probably have a station for storing and caring for the automobiles of its members.

The Officers of the Club.

The founding of the Automobile Club of America has not been accomplished without a considerable work on the part of the executive committee into which those attending the first meeting organized themselves. The acting president, Mr. George F. Chamberlin, is an enthusiastic automobilist, and has made a number of long runs, among the latest of which was one from Wells Run, White Mts., by way of Hartford, Conn., to New York. All kinds of roads were encountered, being especially rough and hilly on the first part of the trip. While Mr. Chamberlin is a member of several clubs he lays no claim to being a "club man," and has entered into this organization for the love of the sport. He is opposed to high speeds on public roads, and believes that every consideration should be shown to the drivers of horse-vehicles.

The secretary of the club, Mr. Homer W. Hedge, is also an enthusiast, and believes not only in the pleasures of the present, but also in the promising future of the automobile. He has taken hold of this club with his characteristic energy, and has ably advanced its interests and also those of the automobile.

The Constitution of the Automobile Club of America.

The constitution of the Automobile Club of America, which is now in the hands of the printer, provides for the membership, organization and conduct of the club. In Art. III. Sec. 1 the object of the club is stated as follows: "The promotion of a social organization or club composed in whole or in part of persons owning self-propelled pleasure vehicles for personal or private use. To afford a means of recording the experiences of members and others using motor vehicles or automobiles. To promote original investigation in the development of motor carriages. To co-operate in securing rational legislation and the formation of proper rules and regulations governing the use of automobiles in city and country, and to protect the interests of owners and users of automobiles against unjust and unreasonable legislation, and to maintain the lawful rights and privileges of owners or users of all forms of self-propelled pleasure vehicles whenever and wherever such rights and privileges are menaced. The encouragement and development in this country of the automobile. To promote and encourage in all ways the construction and maintenance of good roads and the improvement of existing highways, and generally to maintain a social club devoted to automobilism."

The membership is comprised in four classes: Honorary members, limited to twenty-five; life members, number unlimited; active members, limited to four hundred, and associate members, persons living more than fifty miles from the New York city hall, but who may become active members by the payment of same fees, unlimited.

Article V. says: "The officers of the club shall consist of a president, a first, second and third vice-president, secretary, treasurer and consulting engineer. The general management and control of the affairs, funds and property of the club shall be vested in a board of nine trustees, exclusive of the president, first vice-president and secretary, who shall ex-officio be members of said board. All the officers of the club shall at the time of their election be the owners of automobiles."

The general management of the club is vested in a governing board of nine members, assisted by committees, appointed by

MR. HOMER W. HEDGE, SECRETARY.

the board at its first regular meeting after the annual election, which takes place on the second Monday in October, as follows: "A membership committee composed of three active members; a house committee composed of five active members; a committee on exhibitions, contests, runs and tours, composed of three active members; a committee on laws and ordinances composed of three active members; an auditing committee composed of three active members who shall not be governors nor hold any office in the club."

"The committee on laws and ordinances shall examine and report on all laws and ordinances in existence or that may be pending affecting the rights and privileges of owners and users of automobiles, and shall take such action subject to the approval of the board of governors as shall effectively maintain those rights and privileges whenever and wherever such rights and privileges are menaced."

A Family Party.

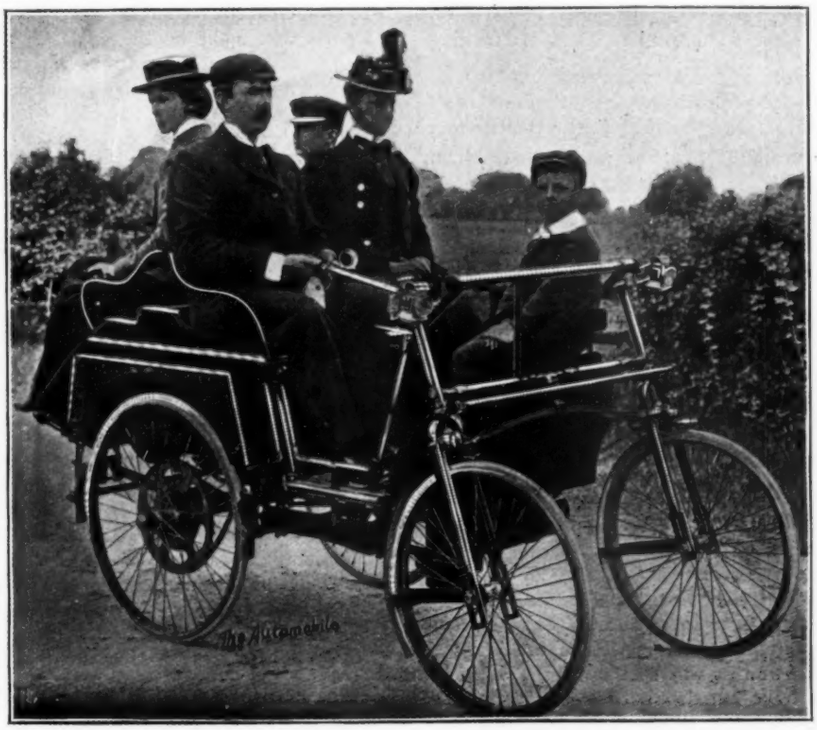
The neat, light and comfortable looking automobile illustrated herewith was built in England after a design of its owner, Mr. Stephens, and it is in daily use at the little seaside resort of Clevedon. It carries quite a party, as will be noted, and each has a comfortable seat. There are several important details in its construction.

The cushions are upholstered in red plush; the body is a light chocolate with red and yellow lines, and the fittings are nickeled. The water tanks over the rear wheels act also as mud guards. The ingenious spring arrangement for the support of the forward part of carriage allows it to adjust itself to any inequalities of the road, and there is an absence of vibration.

Racing Regulations of the Automobile Club of France.

Introduction.—1. The Automobile Club of France is the only association regulating motor-car and cycle races in France.

2. The following regulations are made with the idea that it is the machine and the driver who must go over the whole course without disjunction:



A FAMILY PARTY.

General Rules.—No. 1. Every one entering a competition is supposed to know the present regulations.

General Dispositions.—No. 2. All races or records (motors) are ruled in France by the regulations of the A. C. F.

No. 3. All races in which these rules are not followed will be interdicted, and those who participate in such races disqualified.

Publication of Programmes.—No. 4. The programmes of the races must be (1) sent to the Commission Sportive, and (2) published in the press at least five days beforehand for track races and a fortnight beforehand for road races.

No. 5. The programmes must contain: 1. The full enumeration of the prizes. 2. The distances. 3. The date of the closing for entries. 4. The amount of the guarantee (forfaits) if such is stipulated. 5. The full itinerary of the race.

No. 6. No modifications can be made to the programme.

No. 7. A copy of the programme must be given to every competitor inscribed.

Classification of the Races.—No. 8. The races must be free or reserved. The races reserved are those which only apply to a class of racers stipulated by the organizers.

Categories.—No. 9. The different classes of vehicles recognized by the A. C. F. are (1) motor-cycles, etc., not weighing more than 250 kil.; and (2) vehicles weighing over 250 kil., and carrying two persons side by side of a minimum weight of 70 kil. each.

No. 10. The Commission Sportive is the only judging body as regards questions of classification.

Entries and Guarantees.—No. 11. The organizers have to fix the entry fees, and may make them returnable or not.

No. 12. Any guarantee must be stipulated in the programme.

No. 14. Entries must be made in writing, within the time fixed, or by telegram followed by a letter of the same date.

No. 16. Any false declaration made by the competitor may render him ineligible for the race.

No. 17. Any person running under a pseudonym must have it accepted by the Commission Sportive.

No. 18. The pseudonym can only be changed if a sum of 20 francs accompanies the demand.

Commissaires or Judges.—No. 19. Every race must be directed by three commissaires chosen by the organizers, and whose names must be communicated and accepted by the Commission Sportive.

No. 20. The execution of the programme and also of the present regulations are in the hands of the commissaires, who shall also give decisions in case of any dispute.

No. 21. The commissaires can prevent any competitor from participating in the race if they consider his car dangerous or the driver inexperienced.

No. 22. The commissaires can inflict penalties up to 200 francs, and disqualify for a maximum period of one month.

No. 23. The commissaires must refer to the Commission Sportive if they consider the penalty should be higher than the above-mentioned sum.

No. 24. The starter is chosen by the commissaires and is the only judge as to the validity of the start.

No. 26. The competitors are to be started in the order of entry, unless the programme makes other stipulations.

Arrival Judging.—No. 28. The arrivals must be judged by a single person, who, however, may ask for the assistance of others. The judge must be accepted by the commissaires of the race.

No. 30. In case two competitors arrive together it shall be proclaimed a dead heat, the first two prizes being divided between them.

No. 34. It is sufficient for one competitor to start in a race for him to have a right to the first prize.

Curves and Turnings.—Special marshals have to be located at turnings to see that no competitor acts in such a way as to prevent the other from passing, or to cause him any accident.

Track Races.—The regulations are more or less the same as those which apply to motor-tricycles.

On the Road.—No. 39. Any competitor who in a race crosses another one, or gets too close to him, and prevents him going on, is considered as disqualified unless he is obliged to do so on account of a third vehicle. The fact of the obstruction being involuntary is in no way considered as a sufficient excuse.

No. 49. In road races, the approach of vehicles must be announced by means of horns.

No. 50. During the night vehicles must have at least one white and one green light at the front and a red light at the back.

Regulations of Records.—These regulations are more or less the same as in other sports, consequently they do not call for any lengthy reference.

Validity of the Present Regulations.—The above regulations are obligatory, and will come into force on January 1st, 1900.

The Automobile

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Our Right to the Name.

In every new field that opens those who are ready to hazard the undertaking are numerous. It is a period when the skilled and unskilled receive equal attention, a formative period before the complete establishment of the industry, before those tests that prove "the survival of the fittest" and give to the industry the character it is to bear. As every industry has its publications, so this field as it opened showed an opportunity for a paper, an exponent, an educator, a disseminator of news and information. The publishers of this paper months ago decided upon the plan and scope of this publication and selected the name which it bears, entirely unconscious of any other attempt to use the same. The first edition, irrespective of an advance sheet which appeared, was duly published, its contents copyrighted, and the paper was entered as second-class matter at the New York Post Office. This took place some time in advance of any other paper using the name "The Automobile." According to a precedent established by numerous similar attempts in the history of American journals, the name belonged to the one first appearing. Upon this we base our claim to the exclusive use of the name "The Automobile." We do not wish to profit by any prestige another may gain, and especially we do not care to receive any of the disrepute merited by the extravagant and visionary promises of others. We have already made our bow and believe that the publication will justify itself along the lines its publishers have marked out.

Automobile Racing.

Aside from the pleasure of racing, and the enjoyment afforded those who witness the contest, competitive trials of automobiles play an important part in the development of the industry. It will be as true of the automobile as it was of the bicycle, that it won its way by the race track. The race track cut down its weight, strengthened its parts, improved the bearings, perfected the tires and gave to the pleasure rider as well as the racer a neat, trim, serviceable wheel. The chainless, notwithstanding the claims of its makers and the evident advantages, had also to prove itself on race course. The track will give us the best type of the automobile. The great majority who never see a contest, and who never take any interest in racing itself, will be the gainers in the excellence of their vehicles. The encouragement given to the competitive tests of the automobile will aid not only the sport but also the industry. The history of the automobile in France is really a record of the automobile speed contests. So in America our success will be measured by the attention we give to this feature of the automobile.

The Automobile and Fire Departments.

A want which the automobile is destined to supply is for the fire departments of our smaller cities. In many towns no team is provided for the exclusive use of the department. When a fire occurs the nearest team is pressed into service. The expense of keeping the team by the corporation is considered prohibitory. An automobile eats no oats. It can be easily adapted to this service. It would always be ready. Occasional inspection and test, such as volunteer companies usually have, would insure its prompt service. The expense would be first cost with housing, together with the few inexpensive supplies used. Fire chiefs in several of the larger cities are using automobiles for going to fires and their daily inspection work.

The Automobile and the Age.

The automobile of to-day is possible through the excellence attained in the various parts that make up the vehicle. The carriage itself combines lightness with strength, its motor and motive power combine compactness with the requisite force, and all so constructed as to be under the easy control of a person unskilled in things mechanical. It would have been no more possible fifty years ago than a modern bicycle, with its ball bearings, piano wire spokes, etc., or an electric light in the time of Nero. It is only through the present advancement in the manufacture of metals of the required strength and lightness that the inventor can form the combination of ideas and their representation in metal, producing the self-propelled vehicle of the present. In tracing back we follow it through new machines and labor-saving appliances, new processes of manufacture and wonderful skill only possible at this age of the world. The automobile is a product of the present age, and while we can trace the growth of the ideas, their previous expressions have been crude and ill-formed.

The Automobile and Paris Exposition.

A number of plans are already in contemplation for the advancement of the automobile in connection with the Paris Exposition. One of these is for an international congress of automobilists. Although the matter has but recently been proposed, American builders are in hearty accord with the plan. The space alloted to American exhibitors of automobiles at the exposition is small, the entire space being scarcely as much as one builder would occupy at an exposition in the United States. The space provided in the building is forty-three hundred square feet, but in addition to this automobiles will have an opportunity to show their running qualities on a

course around Lake Daumesnil in the Bois de Vincennes. This is about two miles long. The exposition space set aside for exhibits from the United States is now in possession of the United States commissioners, the formal transfer of the space having taken place early in August, when Gen. Woodward, Assistant U. S. Commissioner, accepted it in behalf of the United States. Major Brackett is secretary to the United States Commission.

America Excels in Steam Automobiles.

In the construction of steam-propelled automobiles, America at the present time excels all other countries. Several companies have this type of automobiles in use, and a number of others are promised in the near future; their builders are inventors of such note that we may look for something well up to or above the standard already set. This class of automobile has already won a name for itself as a touring vehicle, and has attracted especial attention by its feat of hill and mountain climbing. There is a great future open to them, and Americans are not apt to lose the supremacy attained so early in the history of the automobile.

Automobile Design.

The question has arisen in the minds of many builders: Whether the design of the horse vehicle should be followed in the automobile. The public, accustomed to the former, naturally expect the automobile to follow similar lines. A study of the carriages illustrated in THE AUTOMOBILE will show that American builders have so far endeavored to meet this first desire of the public. In a few instances here, and more often abroad, a radical change in the height of the carriage has been made, which previously had been regulated by the size of the animal which furnishes the motive power. In other respects, such as the shape of carriage body, the wheels in size and position, and in one instance where holders for lines and whip socket were retained, the horse vehicle has been closely followed. What the ultimate design will be is an important question, and one hard to determine. Probably as great variety in shape, size, cost, etc., will be found in the automobile of the future as in its predecessor.

The Automobile and Its Price.

Some things are cheap at a low price, others are dear at any price. This is as true of automobiles as of every thing else. While prices may be reduced in the course of a few years, a well-built and serviceable automobile will not be found on the bargain counter, so to speak. Should the manufacturer sacrifice the material or construction of his vehicle to cheapness, he may expect opposition and obstruction to such rights as he may possess on the highway. A vehicle so constructed would be found the most expensive in the end. It must be substantial, well built and of the best material to secure the confidence of the public, and such cannot be secured at a small price. That the price of some of the automobiles which are now offered for a few hundred dollars will be advanced is an opinion of a number who have studied this question. The bush that bears automobiles, like the one that bears gold dollars, has a high fence around it.

The Automobile in Post Office Service.

The post office authorities have manifested a very friendly interest in the automobile, and have co-operated in the number of tests that have been made in the collection and delivery of mail. While it is but natural that the department would go slow in adopting an innovation, it has neither rejected nor accepted them in the service, as reported in newspaper accounts. With horses and wagons, in which a considerable fund is invested, on hand, it would not be practical to make any radical change. The appropriation available would not now be sufficient to make any showing with automobiles at any one place. We have not been informed of an automobile being especially built for such service in this country, but when the matter shall be seriously considered, an automobile built with special regard to the requirements will be forthcoming. That the automobile is as well adapted for the use of the postal service as for the delivery business of the large mercantile houses is unquestioned, and when once it has been tried to the satisfaction of the authorities its use will become general.

Liquid Air and Automobiles.

Although liquid air automobiles have been promised, we have not as yet had an opportunity to see such a vehicle. It may be we are a little impatient and expect too much in a short time. The few facts given concerning the motors are insufficient to convey a very accurate knowledge of the most important part of the automobile, and the appearance of the first one will be a matter of great interest. The companies are doing a considerable advertising, but the principal thing offered is stock, which will hardly take the place of an automobile. Stock may still be a necessity with a corporation, but the automobile is intended to do away with that kind of vehicles. Stock may still be the drawing card to the Mexican wagon, but in the United States it is going out of date.

Good Roads Cause Advances.

The fall campaign for the advancement of the cause of good roads has been well begun by the highway improvement committee of the League of American Wheelmen. Conventions are now being held in Illinois, Iowa, Minnesota and Wisconsin, at their most important cities, to consider the good roads question. It is really a crusade of education, and not the least of the attractions in this line will be the examples of road building conducted by Prof. E. G. Harrison, a government road expert. These pieces of sample road will remain permanent exhibits at the places where the conventions are held. In Wisconsin conventions are held this month at La Crosse, Oct. 9; Eau Claire, Oct. 11; Wausau, Oct. 12; Ashland, Oct. 14; Oshkosh, Oct. 18; Green Bay, Oct. 19; Manitowoc, Oct. 20; Waukesha, Oct. 21; Racine, Oct. 24; Jamesville, Oct. 25, and Madison, Oct. 26. Papers and discussions of questions pertaining to the construction of highways will be the leading features of these conventions. In preparing for these conventions the committee has distributed during the past year among the farmers and residents of the rural districts a half million pamphlets on the subject of roads, how to build and keep in repair. Probably another year these conventions will awaken the interest of those in other states, and a more general movement will result. If the uselessness of the ordinary methods of building and repairing the country road can be shown a very important step in advance will have been taken.

One Thing Lost.

In the automobile one thing has been lost that will be greatly missed, and that is storage space. Under the seat and back of same in the buggy of the doctor or the country parson there was room for a hamper of provisions for the picnic party, a grip of the traveler or some supplies for the needy. In the light runabout of the contractor or jobber the same space gave him accommodation for tools or samples, and in the carriage in general such space, out of the way of the occupant and always at hand, was looked upon as a necessity. This space in the automobile is occupied by the driving mechanism, and when on a long trip the baggage is necessarily piled upon the carriage in a manner that suggests the first of May. In the automobile for general use will not this be provided for?

The Automobile Delivery.

One of the most successful uses of the automobile is in the light delivery service. In nearly all of our large cities such wagons are to be seen, and it is but a question of time before the automobile will monopolize that field. Practical use covering several months has demonstrated their fitness and economy, and during the past month a number of orders for from six to twelve automobile delivery wagons have been filled. The new orders given have been surprising, considering the newness of the industry. These have not been confined to any particular type of wagon or propelling system. In this issue will be found a number of illustrations of automobile delivery wagons, varying in design, methods of propulsion and control.

The Automobile—Its Details, Management and Repair.

CONDUCTED BY GEORGE T. HANCHETT.

DOUBLE MOTORS OR COMPENSATING GEARS.

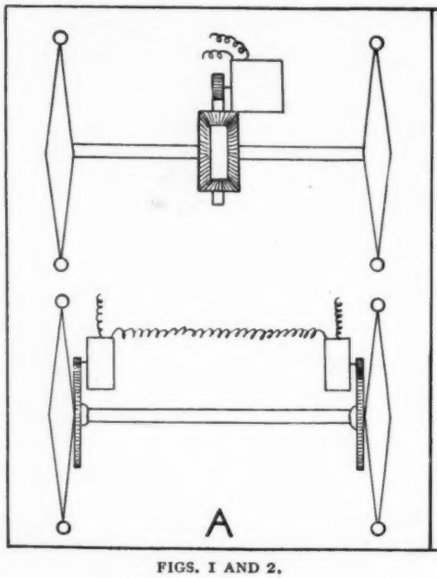
This is a problem which is worthy of extended experiment and discussion, and in the few paragraphs which are permissible here, nothing more than a few comments on current practice can be given. The problem briefly set forth is as follows: In a motor with two driving wheels on the same shaft it is necessary to provide means for these wheels to turn independently of each other in order that the vehicle can turn corners and otherwise be readily steered. With a single motor of any kind this is accomplished by connecting the two wheels together through an epicyclic nest of bevel gears, the system usualy being driven by driving the ring on which the connecting gears are mounted. This is shown in the upper part of A, Fig. 1. When two motors are used each driving wheel can be sleeved on to the shaft which is then stationary, and one motor can be applied to each driving wheel by a suitable system of gearing. In order to mount the compensating gear the driving shaft must be subdivided and sleeved, a casing must be provided for the gearing, and this factor, together with the gearing itself, makes the cost of the single motor vehicle, in the case of electric motors at least, fully equal to that of one possessing two motors.

WHEN THE MOTORS ARE INDEPENDENT.

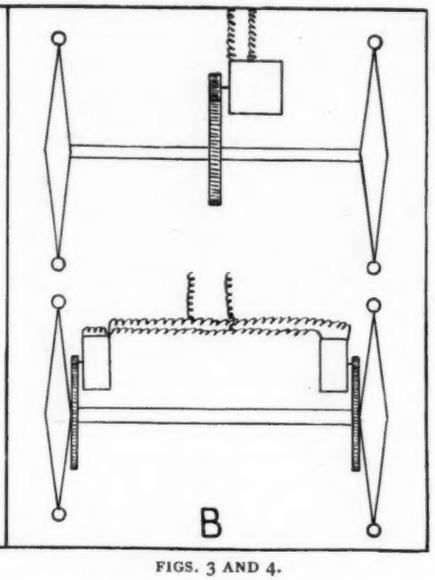
When the two motors are independent of each other, such as is the case with two independent steam engines, two gasolene engines or two shunt electric motors with independent connections to the source of supply, it may be stated that the system is somewhat analogous to the case of two rigidly connected wheels driven by a single motor. The act of steering tends to relieve one motor of the load and to throw the load on the other motor. In the cases just set forth this is a condition which the motors tend to resist, especialy in the case of electric motors. They generate more power in the endeavor to keep the wheels they are driving at constant speed in spite of the directive tendency of the steering wheels. In order to turn a corner one of the wheels must go at a slower speed than the other, and if the system does not bend to these conditions, the steering will be stiff, though by no means as stiff as if the wheels were rigidly connected together. If the motors were of infinite power the analogy would be exact, as they are not the steering can be accomplished without skidding the wheels. With gasolene engines at least, the bigger the motor the less the trouble. No prime mover known to the art is more cranky than a small gasolene engine. One large engine is so much better than two small ones that the compensating gear will always be used until better small gas engines are made. With the steam engine, while small engines work with as much facility as their larger prototypes, yet the economy is not so great, the complication is much greater, the stiffness of steering already mentioned obtain and for the present at least it seems as though the compensating gear would be used. With electric motor, however, the double motor system affords advantages in control, and they may be connected in other ways in which the stiffness of steering just mentioned is entirely done away with, and in this case it is probable that the single and double motor systems will each have many engineering advocates.

THE CONTROL OF ONE AND OF TWO MOTORS.

On electric street railway work two motors are of great advantage, for they may be connected in series and in parallel, thus giving two speeds and both at great economy as no external resistance is necessary. This is also true of automobile work, but as in automobiles one motor is usualy applied to each wheel, the vehicle will steer stiffly on the parallel notches and very readily on the series ones. Moreover, storage batteries which are the usual source of supply can be commutated in series and parallel among themselves, and by this means alone external resistances may be avoided. It then becomes a question in view of the stiffness of steering with parallel connections, whether series parallel control becomes an advantage at all, and whether or not it is not better to arrange the system so that the motors will always be in series. The fact that the series parallel control is covered by a patent which, although it has generally been infringed with impunity, nevertheless lays the infringer liable, is a commercial point which in part cancels the advantage claimed for the two motor system, namely that of more economical control. With series motor, however, the parallel connection does not entail nearly as great a stiffness of steering; indeed, it may be scarcely noticeable.



FIGS. 1 AND 2.



FIGS. 3 AND 4.

THE BEHAVIOR OF MOTORS IN SERIES ON AN AUTOMOBILE.

If two shunt electric motors are connected in series the problem is decidedly different. If such an automobile be blocked up from the ground and the wheels started, the stopping of one of the wheels would make the other revolve at double speed, and if one of the wheels were slowed down by placing a load of any kind upon it, the other will revolve proportionately faster. This action is a precise analogue of that which occurs in the case of a single motor driving two driving wheels by means of compensating gears. According to the exigencies of the load the power shifts from one motor to the other in exactly the way that it is called for. The motor instead of trying to maintain its speed when the steering requires that it be retarded, slows down and delivers its voltage to the other motor, which speeds up. This makes the act of steering very easy indeed, and this is also true in the case of a single motor and compensating gears.

QUESTION OF APPEARANCE.

In point of looks the advantage is distinctly with the two motor system. Two small motors are less bulky and may be more symmetricaly placed than one large

motor, and a compensating gear which is almost as large. The automobile is at present purchased by the moderately well-to-do, and style and appearance must play a prominent part in vehicles which shall be salable. The more the vehicle looks like the ordinary horse-drawn vehicle and the less it looks like a Buckeye reaper, the greater will be its commercial field. The users of horses are an exceedingly prejudiced set, and even when they are reluctantly brought to admit the value of the automobile, they will insist upon the carriage principle as much as possible. In might almost be said that such people would prefer to carry the weight in the form of the hitching weight and strap, and would object less to a pair of shafts tied up with a cord on the front of the vehicle than they would to a small bunch on the rear axle in the form of a motor, no matter how neat and ostentatious it might be.

WAVERLY MAIL PHAETON.

STEERING OF AUTOMOBILES.

The steering of a four-wheeled automobile is an entirely different matter from that of steering a bicycle or a three-wheel automobile, with the propelling motor on the third wheel running in the middle of the trackway. This is true, no matter whether the driving wheels are driven with one or two motors. If one wheel is stalled the other will notwithstanding be driven, and the action will be that of tending to turn the vehicle in a circle with the stalled wheel as a pivot. The result is sometimes amusing, and at other times disastrous. In a case which came to the writer's attention, a large automobile was on the open space in front of the Plaza at the entrance to Central Park. One wheel was resting on a slippery place on the asphalt. The other had a good grip on the dry roadbed. The vehicle was started, and much to the driver's astonishment wheeled around and started off in the opposite direction from that which he had intended, and he was compelled to execute a second demivolte in order to regain the direction he desired. It is easy to see, therefore, that such an accident might in a crowded street be very serious. If one wheel struck an obstacle which stalled it, the result would be the same, and it is very important therefore to keep an eye upon the roadway, as well as upon passing vehicles. In the case of a wheel striking an obstacle, the tendency to revolve the vehicle would be less with two electric motors on a parallel notch. In such a case the stalled motor, instead of giving all its power to the other wheel, would call for more power and overcome the obstruction. This is perhaps the only advantage of manageability which belongs to two electric motors in parallel, driving independent wheels.

AUTOMOBILE INTELLIGENCE.

The original prime mover of street vehicles, that is to say, the horse, solves for us a great many problems which must be solved anew now that it is proposed to relegate him to the museum and menagerie. The problem of steering which the previous paragraphs have to an extent taken up is distressing many inventors, but there is yet another problem which must be solved. The automobile driver must replace the intelligence of the horse. A horse in drawing a load adjusts the effort of the work to be done much more admirably than any motor that the present state of the art has produced. The motor being called upon for more work endeavors to perform the same, but does not begin the work until the load is applied. This may be too late and the vehicle may be stalled. The horse, on the other hand, perceives the effort before it is to be made, gathers his forces and succeeds. He knows how to apply the short quick jerk to surmount an obstacle; he knows how to avoid a collision; he takes a great deal of the responsibility unconsciously from the driver, but none the less surely. This intelligence or instinct is not at all possessed by the automobile, and it now becomes the duty of the driver to supply it. The driver must watch the road, gather speed at grades, corners, obstacles or obstructions of any kind, steer, check the movement of the vehicle, and in short be the brain controlling power to a much greater degree than ever before.

Waverly Mail Phaeton.

The accompanying illustration shows a mail phaeton recently built for Mr. Florence O'Neill, of the Pittsburgh Dispatch. Its beauty is but faintly represented. As will be noticed, it steers by means of the handwheel on the vertical shaft before the seat. This looks a little odd, but it is said to be easier to operate on the large carriage. Storage for the batteries, for this is an electric automobile, is provided in the body of the vehicle. Every accessory is provided in the shape of lights, gongs, etc., electrically operated. With special regard to safety on heavy grades two sets of brakes are provided. This is now to be seen on the streets of Pittsburgh, having been shipped from the factory of the Indiana Bicycle Co. at Indianapolis, Ind.

Masculine or Feminine.

The French are in trouble at a point where English speaking nations find no occasion. Since every new noun in French upon its coming into use must be designated as a feminine or masculine word, the word automobile is up for consideration. One side says: "Une (voiture) automobile;" the other "un (vehicle) automobile." Take your choice.

Automobiles for Honolulu.

Mr. Louis J. Grant, general manager of the Hawaii Automobile Co., Ltd., is in New York, and reports that the plans have been completed for the charging station at Honolulu, and the first order for twenty cabs has been let. The charging station will contain a number of novel features which will be described in these columns when the station is completed. The electric cabs are to be after a design in which the plain, heavy lines of those now in use are to give place to less clumsy details.

Here and There.

It is reported that an enterprising dairyman near Manchester, England, is using a hydrocarbon automobile for house to house delivery.

The exhibition of automobile vehicles in connection with the congress in Blackpool, England, of the Royal Institute of Good Heath, closes on October 14th.

Two pounds is the usual fine for fast driving in Scotland, and automobilists who contemplate testing the speed of their vehicles in her cities should go provided with the required amount.

Cleveland has a school for the instruction of automobile drivers. A specific charge for the instruction is made. It is run by an Eastern manufacturing company and vehicles are furnished for instruction.

Strange to say, where complete combustion does not take place in the hydrocarbon motor it is not to the occupant of the carriage that the odor is a nuisance but to those who happen to be in trail of the automobile.

Our American manufacturers of hydrocarbon vehicles are giving close attention to the complete combustion of the fuel, both as a matter of economy and to prevent the foul smelling vapor to escape, placing them in disrepute.

The Automobile Club of Great Britain will hold house dinners at the club on the second Wednesday in each month, commencing December 13th. Papers will be read and discussions will follow on the evenings of these dinners.

It is reported that the American Automobile & Motor Co., Ltd., has undertaken the introduction of the Stanley steam carriage in France. The Vicomte de Jotemps is the general manager, with offices at 47 Boulevard Haussmann, Paris.

A correspondent writes: "Why do you seek among the languages of the ancient Greeks and Romans for a few fragments to put together to form a word for use in designating a new vehicle of modern invention? Why not call it a goalone and then let-it-alone?"

Among the attractions of the new Madison Hotel, now under construction at Toledo, O., is to be an automobile service. Guests will be entitled to an automobile ride, and the hotel will possess the novelty of being the first to add this service to the list of its attractions.

An elopement by automobile is reported from Berlin, Germany. The young man borrowed his friend's vehicle, flew to the Russian border, where he abandoned to his friend the automobile, and took train for St. Petersburg, where the marriage ceremony was performed.

A fatal accident occurred last month in New York, in which a street car and an automobile cab took part. Henry H. Bliss, a real estate broker, in alighting from a cable car, stepped in front of an automobile, a wheel of which passed over his head, inflicting injuries from which he died on the following day.

Like the strolling players of long ago, an enthusiastic showman is making English towns in an automobile, carrying his company, entitled the Modern Marvel Co., and the necessary baggage and appliances for his cinematiscope. The automobile is a wagonette, carrying a load of fourteen hundred pounds, and doing it very successfully.

Among the enthusiastic automobilists of Canada is Mr. E. J. Philips, of Toronto. He is quite independent of the steam roads, having found that a trip of a hundred miles or so is easily made. To attend a recent convention of Canadian stationary engineers at Berlin, he ran out his carriage and started as confidently as for a short spin. The trip was made at an average speed of twelve miles an hour, including all stops.

Prizes were offered in France about a year ago for the best feeding pillar for electrical vehicles. Recently the committee having the matter in charge made its awards. The prize of about eighty dollars was divided and the committee states that the designs submitted do not meet all the requirements. One of the chief defects is the expense, which ranges from one hundred to two hundred and seventy-five dollars.

The automobile drivers employed by companies operating public vehicles are to have uniforms of a kind to designate the particular service they give. The driver of the public cab is to have one style of uniform, of the automobile on monthly hire another style of uniform and for other services still different uniforms. In other words, they will be known by the clothes they wear.

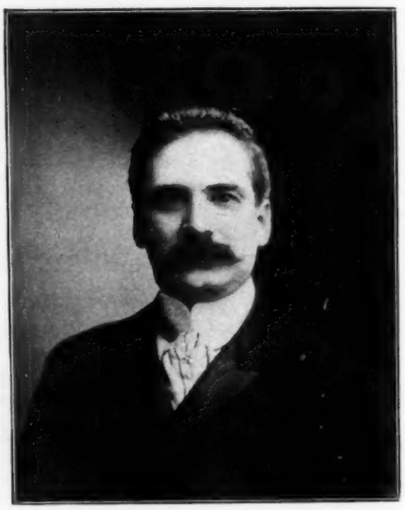
The Autocar, London, gives the following information concerning a run of an automobile of Hon. John S. Montagu. It is driven by a Daimler motor, will accommodate six passengers, and weighs about twenty-four hundred pounds. During the run of one hundred and eight miles from Havre to Amiens, via Neuchatel, it carried five passengers and baggage. The first twenty-two miles were made at a rate of twenty-five miles an hour, and afterwards on good stretches of road speeds of twenty-eight and thirty miles were attained.

A race which must have been in the manner of a continuous performance was recently run from Paris to Trouville, one hundred and five miles. It was a handicap, in which there were pedestrians, horses, cyclists, motocycles and automobiles. The pedestrians, of which there were a score, started at nine Saturday night; the horses, of which there were a dozen, at three Sunday morning; the cyclists at noon; the motocycles at a quarter of two, and the automobiles, of which there were four, at two. They finished, two horses at three o'clock, three automobiles and four motocycles, a horse, a bicycle and the first pedestrian some three hours after the winner.

BIOGRAPHY OF PIONEERS.

Mr. John W. Eisenhuth.

"No, although the prestige derived from past successes and achievements in the domain of labor is scarcely to be overlooked, I believe I have much to learn and more to accomplish before my years have run their predestined course. No matter how pregnant may appear the future with prom-



JOHN W. EISENHUTH.

ises of greater successes to come, I shall always consider myself as only a student in a school where brighter minds than mine are but in the chrysalis state."

These modest words closed an interview which a reporter of The Automobile had with Mr. John W. Eisenhuth, the well-known engineer and inventor, at his office at 40 Wall street, New York. Although but thirty-nine years of age, Mr. Eisenhuth has succeeded at a time of life when most men's minds are in the incipient stage. Numerous inventions and improvements on things both mechanical and electrical for various industries, but especially for power and mine equipments, for which patents have been issued by this and foreign governments, attest his wonderful inventive power, for he is an indefatigable worker.

For eighteen years he was engaged in numerous mining enterprises on the Pacific slope, and his inventions for the hoisting and the reduction of ores are in use by the more successful companies of that section, where he still has large interests, and also near Sitka, Alaska. Greatly esteemed by

mining people with whom he has had a common interest, he has also gained a reputation for his marine engines used by many on the Pacific coast.

His latest achievement is the automobile, for which letters patent have been received. Its special feature is a compound engine of gas and compressed air, the latter being superheated by the exhaust from the gas engine. This has been highly spoken of, and a company, of which Mr. Eisenhuth is the head, has been organized for the manufacture of these vehicles. This class of motors is not a new one with him, for as early as 1887 he had a gasolene stationary motor of his own invention in use. This was of course in the early days, and it was crude as compared with the new type of motor which is used on the self-propelled vehicle now being manufactured.

Nearly every part of the world has been visited in his career, and the reminiscences of his travels are interesting and entertaining. Withal, he is a most unassuming man, quiet in his tastes, genial in manner and a most delightful raconteur. He is a thorough American and proud of his native land, although he can lay claim to being a lineal descendant of the Eisenhuth's (iron hat) a lordly race of feudal time. One of the pleasant features of his personality is his pride in being a man of the people and one whom you can always approach with the certainty of being well received. Col. Eisenhuth, besides being a member of many other societies, is a life member of the California Geographical Society, which numbers among its members some of the wealthiest and most influential people in the commercial world.

A Syracuse Electric.

A very serviceable-looking automobile is shown in the two views, Figs. 1 and 2. For a runabout it possesses several strong points. One would scarcely expect in so small a body power for a forty-five mile run, but such its builders claim for it. Accommodations are provided for two persons on the broad thirty-four inch seat. It weighs, ready for the road, under a thousand pounds. The motor is rated at three horse power. The wheels are of the steel bicycle pattern, with three-inch pneumatic tires on rear wheels and two and a half-inch tires on forward wheels. The rear wheels front and rear have the same diameter, thirty-two inches. The automobile, as here illustrated, has a black body and red running gear. Another model electric is built by the same firm, providing two seats, for three passengers each, and proportionately heavy in construction. Both these automobiles are provided with tops when desired. There is a certain originality noticeable in the various parts of the vehicle that indicate that these are entirely new and worthy of the builders, Messrs. Saul & Van Wagoner.

FIG. 1 —A SYRACUSE ELECTRIC.

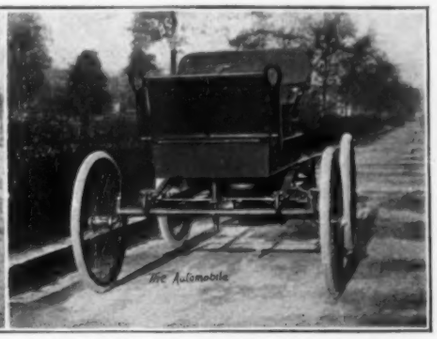
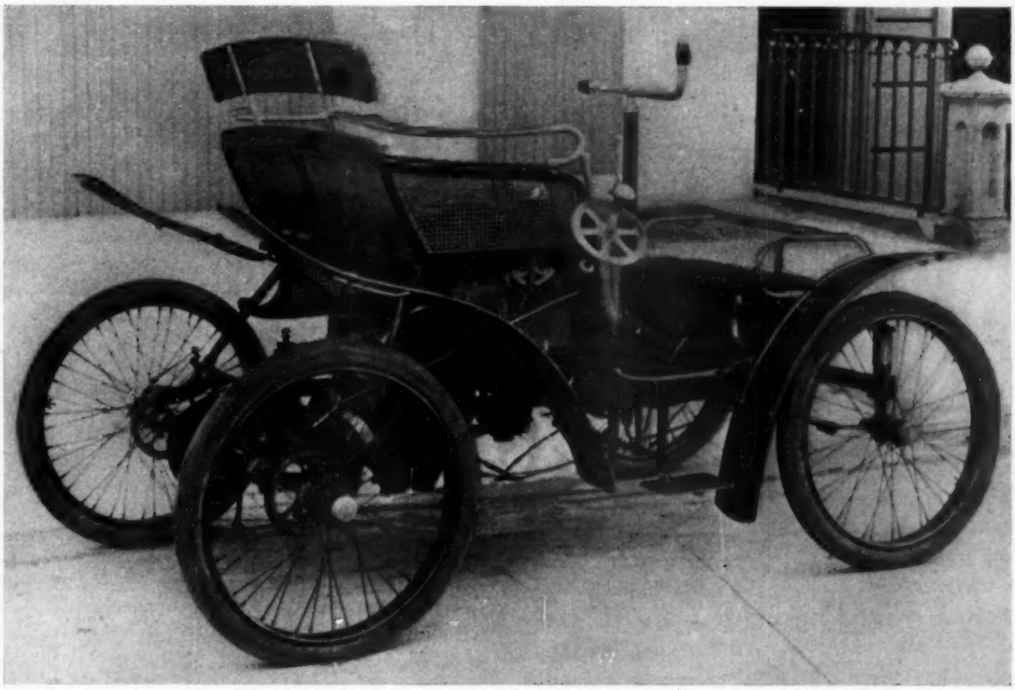


FIG. 2.—A SYRACUSE ELECTRIC.

An Automobile Voiturette.

The automobile shown herewith is speedy and small. It sets low on its four steel wheels, but provides ample room for its occupants. There is room for two grown persons on the seat and a child on the low upholstered rest in front. The speed may be varied from zero to twenty-five miles an hour. The motor is of a double cylinder type, placed vertically, and is without water jacket, so that no water is required in the running of the automobile. It is quite a hill climber, and is good for a twelve per cent. grade. The mud guards are long and will protect the riders on muddy roads. The details and arrangement of driving mechanism is well shown in the engraving. The controlling and steering levers are placed at the left, following the usual practice. The Automobile Co. of America are especially proud of this vioturette, as it exemplifies the line of light carriages they are building. The body and many details are modified to suit the taste of purchasers. Substantial, well constructed and well finished, these automobiles will probably meet the ideas of many enthusiastic automobilists. It weighs but four hundred and fifty pounds, and with this style of frame and pneumatic tires is very easy riding.



AN AUTOMOBILE VOITURETTE.

From Our Contemporaries.

WINNING ITS WAY.

A recent number of the Electrical World and Engineer takes the following hopeful view of the electric automobile: The electric automobile is here and here to stay and improve. No half truths can wipe it out. It is winning its way against other types just as the trolley won its way against the horse, the cable car, the compressed air car, the gas car, the steam car and a host of other types. It is still crude, but it is rapidly improving, and the work of such men as Riker, Sperry, Woods, Maxim, Condict and others in this country is doing what the work of Sprague, Henry, Van Depoele, Daft and Field did for the trolley.

A MAN-POWER AUTOMOBILE.

The following rather amusing attempt to do away with the horse is described in the Wheel: There are automobiles and horseless wagons, but the horseless wagon that can be seen on a Newark street almost any evening beats them all. It, to all appearances, is one of those new-fangled wagons, having pneumatic tires, lamp, steering gear and a bell to warn pedestrians; but as it bowls along it will be discovered that, although the propulsion is not through the agency of a horse or motor either, the result is brought out by man power. Two brothers have fitted out this unique wagon. They take turns pushing the vehicle along, one sitting in front, clanging the bell and steering, while the other runs behind, furnishing the power. A buggy with the shafts removed and a steering gear, gong and lamp are thus improvised, and a person would really think at first sight it was an automobile, did he not discover the man power behind.

LIQUID AIR.

A recent number of the Engineering News describes the efforts to exploit the stock of the various liquid air companies, and in conclusion has this to say: The moral of all this seems so plain that it can hardly fail of comprehension. Liquid air is now the subject of a popular craze, just as acetylene was two or three years ago, just as the X-rays, aluminum production, electric motors and compressed air have been at various periods. These are the harvest times for promoters. A sucker is born every minute, and some of the school can generally be induced to swallow the bait. We are well aware that a large number of inventors and engineers all over the world are and have been for some time honestly at work on the problem of liquid air production on a commercial scale. The practical success of any of them is yet to be demonstrated, and after practical success has been attained it will then remain to be seen whether any patents can be secured that will not be easily evaded by competitors. An investment in the stock of a liquid air exploiting company might possibly be judicious, if it were made on the strength of a report by a competent engineer and a competent patent attorney employed by the investor himself. An investment in liquid air stock without such precautions is at the best to engage in a blind pool, and at the worst is to be duped by professional swindlers.

HE SHOULD OWN AN AUTOMOBILE.

Had Mr. Hogan owned an automobile the Electrical Review would not have had occasion to describe the following incident: Mr. John Hogan, of New York, owns a valuable mare named Lady Jane, a high-stepper and of some celebrity on local tracks, but seemingly unable to appreciate the deliverance of her kind from bondage by the agency of the electromobile. One evening last week her owner stopped the mare in East Forty-second street and hired a small boy to stand at her head while he went indoors. An electromobile delivery wagon came along presently and Lady Jane stood on her hind legs and pawed the air. The boy stood this about ten seconds. Then he loosed his hold and the mare headed down the street, dodging the electromobile which had backed up under her nose. She crossed Second avenue, went through the tunnel between Second and First avenues and crossed First avenue, banged the carriage against an electric light pole and turning on to the river front, gave a leap that landed her in the river twenty-five feet from shore. For over eight hours the mare floated about before she could be rescued, but she was finally hauled out of the water, somewhat subdued but seemingly none the worse for her experiences.

FOR A WOMAN'S AUTOMOBILE CLUB.

The Autocar of Sept. 23rd mentions in the following a movement which has not as yet reached this country: That indefatigable young person Miss N. G. Bacon announces that "as ladies are not permitted to become members of the Automobile Club of Great Britain, the formation of a 'Mowbray House Automobile Club' has been suggested, and a meeting will be held at an early date to discuss the matter." So far as we can gather, the only reason at the moment for the formation of a Mowbray House organization is that ladies are not admitted to membership of the Automobile Club. We are not aware that any lady has stated she would have applied for membership had the club been open to her sex. However, the fact that ladies may be introduced to the Automobile Clubhouse at certain specified hours, though not eligible for membership, seems to have set Miss Bacon on the war-path. Nevertheless, we fear the number of lady automobilists does not warrant the formation of an organization for their special benefit at present, but if we are mistaken, and Miss Bacon is right, we shall be only too pleased, though we confess to a sort of doubt as to the advisability of the smallest section of automobilism being even indirectly associated with women's rights, dress reform, peace conferences, or any other social or political "movement," be it never so praiseworthy. If our memory does not play us false, Miss Bacon was very indignant a few years ago because the National Cyclists' Union discountenanced becycle racing for women. We do not think she wanted to race. She merely objected on principle.

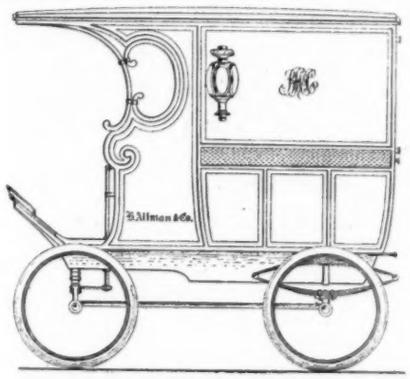
AN AUTOMOBILE FIRE ENGINE.

A recent number of the Motor Car Journal, London, describes in the following manner an automobile fire engine recently built by Messrs. Merryweather & Sons, of Greenwich: The vehicle, which is intended for use in India, resembles in general appearance an ordinary fire engine; it is, however, fitted with an arrangement of spur gearing which enables the engine to drive an intermediate shaft when put out of gear with the fire pumps. This countershaft is fitted with balance gear, and drives the rear wheels by means of strong pitch chains. The steering is effected by means of a hand wheel actuating a vertical shaft which is connected to the fore carriage, a small sprocket wheel and roller chain being provided for this purpose. The pumps are capable of delivering 300 gallons per minute, and of throwing a jet to a height of 150 feet. When the fire engine was tested in London it was found that such hills as Blackheath could be mounted at a speed of ten miles per hour, while upon the comparatively level roads over Blackheath to Shooter's Hill a speed of from fifteen to twenty miles per hour could be easily maintained. The steering wheel, steam regulating lever, reversing lever, and brake are all within easy reach of the driver sitting on the off side on the front, and an auxiliary brake is provided to work with a screw and hand wheel at the back. The machine is arranged to carry the usual complements of firemen, hose and gear, and the entire weight when fully equipped with fuel, coal, water, and the firemen is under three tons. The boiler is of the same pattern as that used in the construction of the engines supplied by this firm for the Metropolitan Fire Brigade. Steam can be raised from cold water to working pressure in six minutes from time of applying the match to the fire; but if a heater with self-locking couplings and automatic disconnection is fitted in the engine house, steam can be raised in so short a time that the engine can start at full speed from the fire station in from three to four minutes

from time of receiving the call. When the scene of conflagration has been reached the fire pumps can be at once thrown into gear. In connection with this question of automobile fire engines, we may mention that, at the instigation of the Leicester fire brigade authorities, the Daimler Motor Co. has undertaken to turn out a fire service wagon which will be ready to start on its journey within thirty-two seconds from the time of call. Other fire brigade authorities will watch the Leicester experiment with considerable interest.

Altman & Co's Delivery.

The delivery wagon shown in outline in the accompanying cut is one of a number now being built for B. Altman & Co. of New York by the Automobile Co. of America. The wagon body is similar to the regular type adopted by the above



ALTMAN & CO'S. DELIVERY

company. The motors are to be of gasoline, coupled to the rear axle and driving the wagon by means of the rear wheels. When these wagons are completed we hope to show them more in detail. Among the superior claims made for these wagons are lightness, long distance running, always ready for use, minimum storage space required and no central power station.

The Paris-Ostend Race.

This race was run the first of last month from Paris to Ostend with very favorable results. Great interest was manifested in the race and crowds awaited its termination at the race course in Ostend. Favorable weather assisted to give the participants opportunity to show their automobiles to advantage. The distance from Paris to Ostend is about two hundred and five miles and the roads are reported as being very inferior to roads in general in France.

The competitors were divided into two classes: tourists and racers. The former started Thursday, and did the trip in two stages, staying the night at St. Pol. The racers did the entire distance Friday. On the morning of the start thirty presented themselves, of which three were disqualified under the rules of the Automobile Club of France. Among the competing vehicles were two carriages of British manufacture, which were entered under the auspices of the Automobile Club of Great Britain. One of these was delayed by a broken water tube, but afterwards made an excellent showing. Of the total number, there were seven carriages, eleven motorcycles and eleven voiturettes.

The first part of the course was a fine stretch of road, but later hills were encountered, and it was going down one of these where a sharp turn was met that an electric automobile broke an axle and a Decauville voiturette smashed the forward part of body. The latter was able to continue, but the former was delayed several hours. M. Garcin, its owner, made over ninety-three miles to Amiens on one charge of his batteries. One automobile was wrecked by the breaking of a driving wheel, and a number of punctures occurred which caused delays of a quarter to half an hour.

On Friday morning nine automobiles started in the racing class with a lead of fifteen minutes on the twenty-four motor-tricycles also in this class. They started off at a lively pace with little regard to the dangers of such speeds over ordinary roads. The following interesting account of this day's race is by the French correspondent of the Autocar, London: "The tricyclists Reynaux, Baras, Beconnais and Teste were all together in the front group. From this point Levegh, on his Mors car, increased his lead, and reached Beauvais at 10.25, followed by the tricyclist Teste at 10.27, Baras at 10.28, Girardot at 10.29, Jenatzy at 10.30, and then came Lemaitre, Charron, Flash, Broc, and Perrot, all in carriage racing class, alternating with several tricyclists. The rain was now beginning to fall, and the tricyclists had a lot of trouble through side-slip on the greasy pave in passing through the towns, but this had no effect on the cars, which continued to travel at a terrific pace. Levegh reached Breteuil (97 kiloms.) at 10.56, together with Teste, and then came Baras and Girardot. At Amiens Levegh had covered 129 kiloms. in 2 h. 13 m. Teste was only one minute behind him, and Girardot, Baras and Lemaitre passed together six minutes afterwards. Between Amiens and Doullens, Teste had overhauled the leading car, and was now one minute ahead, and Lemaitre was drawing up until now he was only four minutes behind Levegh. Girardot, Charron and Jenatzy followed at intervals of a few minutes, and then came Broc, Flash, and Perrot. The race between Levegh and Teste was now becoming intensely exciting, first one and then the other taking the lead, until at St. Pol the former was five seconds in front. Levegh maintained his advance up to St. Omer, when he was one minute ahead of Teste, and Girardot and Baras arrived together four minutes afterwards. Teste now again turned the tables on Levegh, and reached Dunkirk (274 kiloms.) at 2.36, and Levegh and Baras followed two minutes afterwards, with Girardot close up. Lemaitre continued to occupy the third position among the cars, and Charron's progress seemed to be interfered with by a broken spring. Teste now appeared to have every chance of winning, but, unfortunately, a slight accident enabled Baras, who was riding a Perfecta tricycle, to get in front, and he reached Ostend first at 3.53. Girardot had meanwhile caught up Levegh, and the two were fighting a splendid duel. They arrived so close together on the racecourse, where the finish took place, that the judge could not separate them. Teste was fourth, and then came Lemaitre and the tricyclist Corre, followed by Charron, Jenatzy and Broc in that order."

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